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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,176	06/17/2002	Michel Faral	Q68523	8866

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, DC 20037

EXAMINER

YEE, DEBORAH

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,176

Applicant(s)

FARAL ET AL.

Examiner

Deborah Yee

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-14 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 to 4 and 8 to 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyakusu et al (US Patent 5,178,687) or Pronk et al (US Patent 6,109,336).

Pronk in claims 1 to 19 of columns 11-12 discloses a method for manufacturing carbon steel sheet or strip by continuously casting thin steel strip or sheet to a thickness of less than 100 mm followed by hot rolling in the austenitic region, coiling, cooling into the ferritic region, in a non-oxidizing atmosphere and then cold rolling the rolled strip to a finish thickness of more than 75% and less than 90% reduction to a finished thickness of less than 0.14 mm.

Miyakusu on lines 6-60 of column 4 discloses a method for manufacturing carbon steel sheet by continuously casting thin steel sheet, heating and hot rolling steel into austenitic temperature range, control cooling to a selected coiling temperature of at least 500C to provide a fine-grained ferritic structure, pickling (descaling), cold rolling at least 70% and annealing. Lines 1 to 15 of column 5 discloses specific examples subjected to hot rolling to a thickness of 4 mm, descaling, cold rolling to a thickness of 0.8mm (reduction of 80%) followed by annealing.

Although prior art references do not teach a cooling rate of 80 to 400C/sec or 100 to 300C/sec, such would not be a patentable difference. Note that present invention cools at 80 to 400C/sec or 100 to 300C/sec to obtain ferrite. Similarly, prior art methods cool to obtain ferrite and hence would be expected to have a cooling rate of 80 to 400c/sec since ultimately the same goal of achieving ferrite is obtained.

Also although prior art does not teach hot rolling in a single step with a reduction ratio of at least 20% or 50% recited in claims 3 and 4 or cold rolling in a single step as recited in claim 14, such would not be a patentable difference since it would be a matter of choice and routine optimization well within the skill of the artisan and productive of no new and unexpected results to select reduction ratios and number of rolling steps.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 is unclear and vague because it is uncertain what temperature is required for the first step yet it is necessary to reheat steel at a temperature which passes the ferritic range into the austenitic range. To provide clarity, it is recommended to use language such as ---...in that the first of these steps is carried out between the austenitic and ferritic range of the cast strip, with a reduction ratio of 20 to

70% and then left to cool down into the ferritic range if it is not already there, in that,....--

- Support is shown on lines 15-39 on page 7 of applicant's specification

Allowable Subject Matter

Claims 5 to 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Also Claim 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The art of record does not teach or fairly suggest the process for manufacturing carbon steel ,as claimed, wherein steel is cast in the form of a thin strip from 0.7 to 10 mm in thickness, directly from liquid metal followed by hot rolling carried out in two steps, in that the first of these steps is carried out with a reduction ratio of 20 to 70% in the austenitic or ferritic range and then left to cool down into the ferritic range if it is not already there, in that, after this first step, the strip is reheated so as to make said steel pass from the ferritic range into the austenitic range, and in that the second rolling step is then carried out with a reduction ratio of 10 to 30%, at the end of which second step of said steel is in the austenitic range.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 703-308-1102. The examiner can normally be reached on Monday-Friday from 6:30 to 4:00.


Application/Control Number: 10/088,176
Art Unit: 1742

Page 5

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 703-308-1146. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

dy


DEBORAH YEE
PRIMARY EXAMINER